Appendix E
JTAV in the 21st Century

NEW LOGISTICS DYNAMIC

After four decades of relative stability, U.S. national and military strategy has changed dramatically in the post-Cold War 1990s. Similarly, the concept of logistics is experiencing an era of renewed interest. Logistics has undergone many changes since the term was first used by Baron Jomini in 1838 in *The Art of War*. Jomini referred to logistics as "comprising the means and arrangements which work out the plans of strategy and tactics. Strategy decides where to act: logistics brings the troops to this point."[1] Logistics has generally been regarded as a necessary evil—often seen as the *tail* of a warfighting machine and constantly in a battle with the teeth for resources. This image has caused the art of logistics to be somewhat neglected by all but those who must make it work.

In the last few years, logistics has undergone a revolution, resulting from the realization that logistics is necessary, but not necessarily an evil. Logistics impacts on the consumer can be directly applied to productivity, efficiency, effectiveness, and customer satisfaction. In short, logistics can provide a *strategic* advantage—a situation with serious implications for sharing data and information technology.

BUSINESS PROCESS REENGINEERING

To maintain viability, all institutions need to continually improve. One of the more popular improvement strategies is business process reengineering, a systematic method for redesigning the processes of a business unit.

Time and Location

The concepts of *time utility* and *location utility* are being integrated with *cost*. Traditionally, *time* and *location* have been cornerstones of the logistics process. Time is viewed in terms of minutes, hours, or days; and location in terms of distance from one location to another. Logistics decisions have generally been made in regard to them as separate, but equal, concepts with a direct linear relation. For example, as distance increases, so has time. These two concepts are now seen as not separate but two aspects of the same issue—cost—and the relationships are not always direct or linear. For example, with the advent of premium transportation services, sending a package to Dubai takes no more time than sending it to

[1] Clark, Arthur L, *Warrior's Wisdom*, Perigee Books, New York, 1977, p. 90.

Dubuque. In this case, as distance increases, time remains constant, but cost increases. In addition, if the package is sent to Dubai by ship, the delivery time increases, but the cost decreases—an indirect relationship. As a result, rather than the logistics pipeline being viewed as a constraint that limits operational capability, it can be seen as an opportunity to increase combat power by making effective tradeoffs among the three elements.

Impact on JTAV—To make effective tradeoff decisions, managers and leaders need accurate and timely information. The need not only necessitates more integrated information systems and more sophisticated decision support tools, but also requires a broad spectrum of users and support tools share that information. JTAV capabilities need to be robust, flexible, accurate, and timely.

Custom Service

Customer satisfaction has been a standard tenet of business practice for many years. Until recently, customer satisfaction has been expressed in terms of actions to satisfy customers *within certain boundaries*. Customer satisfaction is beginning to mean actions *outside the boundaries* to keep customers happy. For example, in the past, if customers were unhappy with the service they received, a business unit would explain the limitations it had, might offer a discount price temporarily, and (if very customer-oriented) might waive a rule on a one-time basis. Now business units are customizing their services and products to meet consumer needs. This trend should continue to grow, and the need to customize service for individual customers should continue to receive additional emphasis.[2]

Impact on JTAV—Customized logistics requires customized information systems to support the processes. As a result, custom information support systems and interfaces may be needed to provide interoperability and the full sharing of information.

Outsourcing and Third-Party Logistics

Many organizations realize that not only is logistics very important, but logistics functions are very difficult to perform and not everyone has the right skills. As a result, the business world has seen the emergence of outsourcing and third-party logistics (3PL) firms. DoD has embarked on a selective program to outsource noncore logistics functions, but has little control and visibility over 3PL shipments. Generally, 3PL providers do not use Defense Transportation System procedures, systems, and standards. This situation makes achieving an ITV capability for 3PL-managed shipments particularly challenging. Although USTRANSCOM is developing GTN to become the single defense database for ITV information,

[2] Interestingly, the root of *customer* is *custom*.

3PL providers are not contractually obligated to provide asset visibility information to GTN, and they do not use standard military information.

Impact on JTAV—DoD needs to develop and implement a program for obtaining ITV of 3PL-managed shipments.

Strategic Alliances

Many firms are building alliances with trading partners rather than merely selling goods and services. Suppliers realize that if they provide a value-added service and help their customers become more profitable, market share increases. Likewise, many retail units (for example, the Wal-Mart distribution system) view their suppliers as more than a source of goods. Wal-Mart has no wholesale warehouses, but receives deliveries directly from vendors. In effect, a supplier serves as a Wal-Mart warehouse and provides a distribution function. This example illustrates the idea of replacing costly inventory with less expensive information. Within the DoD context, however, many instances may occur when replacing inventory with information may not be operationally beneficial. These decisions need to be made on a case-by-case basis.

Impact on JTAV—The trend of creating alliances with suppliers should continue to increase and create additional data integration challenges. As DoD becomes more dependent on just-in-time delivery concepts, information should increasingly replace the need for inventory, and JTAV or similar capabilities can provide data access.

LOGISTICS INFORMATION HUB

Some supply and transportation transactions of the military services do not pass through a DoD communications link (for example, DAAS and GTN) for several reasons. First, 3PL providers do not use DoD standards or systems. Consequently, asset visibility is not available when these firms provide support. Also, although other means of electronic commerce (such as dedicated communications services, value-added networks, and data fax) adequately exchange information to accomplish business processes, they do not permit sharing data without a direct and specific system interface. Additionally, many business transactions can be conducted on the World Wide Web. While making life much more convenient, those transactions are not processed through any central activity that allows them to be tracked and traced. We should continue to fix problems with innovative solutions, but we also need to ensure that JTAV compatibility is addressed if information is relevant to JTAV capabilities.

Impact on JTAV—If all logistics transactions with JTAV significant data are not routed through a control/communications link, significant discrepancies occur in

the ability to track assets from a central location. A method needs to be developed to ensure that all JTAV significant transactions are tracked and archived.

BUSINESS GLOBALIZATION

The increasing *globalization* of businesses has a direct effect on Defense activities and the implementation of JTAV capabilities. In many instances, international procurement is a matter of economic necessity because the goods are cheaper or, in some cases, only available overseas. However, this trend adversely affects U.S. mobilization capabilities. If goods are not made in the United States, the infrastructure to produce the goods may atrophy and the industrial base will not be able to support mobilization requirements or to provide routine spares and replacement parts. This trend may continue and require a greater and more complex information integration effort.

Impact on JTAV—The in-process (procurement) portion of JTAV should be developed to accommodate a wide variety of possible source systems. As more American firms that support DoD build relationships with foreign companies, more information systems and business processes will need to be accommodated in the JTAV environment.

COALITION FORCES

U.S. military planning involves multilateral actions. Our mutual interdependence requires that we know the needs of our allies. The Gulf War, which was fought with coalition forces that benefited from international agreements, may be useful for showing how coalition partners may participate in future military engagements. While having political and military advantages, the strategy of international cooperation also presents many logistics challenges, particularly to creating JTAV capabilities. This setting introduces more nonstandard document, shipment, and transportation identifiers; potentially incompatible communications links; and unfamiliar business processes.

In addition, a reliance on allied or coalition forces also brings an attendant reliance on foreign vendors and host nation support. The United States is a member of many multinational defense and security alliances. As a result, U.S. forces may deploy to several locations with each host nation possessing different capabilities of resources and infrastructure. Accordingly, the logistics and operational support deployed U.S. forces receive may vary by host nation.

Impact on JTAV—If the United States plans to take full advantage of agreements with coalition forces, information concerning logistics support should be exchanged with friendly foreign forces. This concept requires JTAV-related systems to be able to transmit and receive data from foreign systems.

SUPPLY CHAIN MANAGEMENT

Supply chain is a term increasingly used by the private and government sectors to describe all processes involved in producing, storing, and delivering a product. The activities include identifying sources for raw materials and parts; developing, manufacturing, and assembling final products; storing materiel; tracking inventory; and delivering products to customers. A supply chain comprises not only all of an organization's logistics processes, but its business processes as well. The idea of a chain connotes interdependency among suppliers, manufacturers, distributors, transporters, and customers. The concept of supply chain management is closely related to DoD's concept of functional integration. Functional integration examines processes as they involve more than one functional area. The objective is to develop a means of monitoring and managing a process from end to end regardless of the functions that provide support to the process. Managing processes from end to end is beneficial to a customer as well as a provider. Customers receive better and faster service, and the provider reduces its costs.

Impact on JTAV—The trend of using process management techniques should continue to grow. Information on the status of individual logistics functions facilitates effective management of the entire supply chain. Several tools are available. They include the Internet, satellite tracking, point-of-sale systems, RF tagging, and electronic ordering. To support process management techniques, JTAV should be developed to take advantage of available and emerging technology.

VALUE-ADDED VISIBILITY

Having visibility of every item in the DoD logistics pipeline is not cost-effective or necessary. Some areas with visibility *blind spots* may be acceptable. These areas include an item that is inexpensive or easily procured, or the time period is so brief that tracking the product is not cost-effective. An example would be subsistence items procured directly from a vendor that delivers them in less than 48 hours. These items, if delayed, can normally be obtained from another source. Another example is administrative and office items. Again, the general noncriticality of these items, their general availability, and short time that visibility is lost suggest that gaining visibility is not cost-effective, especially since the ability to use information to influence a transaction is negligible.

Impact on JTAV—This issue has serious implications for JTAV implementation. First, resources should not be spent to provide visibility that is not cost-effective. Second, the issue also depends on how JTAV implementation is regarded as successful. The JTAV scope needs to be refined to identify items and processes where JTAV capabilities are not relevant. The JTAV Office needs to coordinate with users to determine which items provide minimal value added.

SUMMARY

DoD and the private sector continue to reengineer business processes. Such concepts as the integration of time and location with cost, customized service for individual customers, outsourcing, third-party logistics, and strategic alliances require JTAV capabilities to be flexible and robust. The increasing globalization of business directly affects defense activities and the implementation of TAV. The use of coalition forces that may be the model for future military engagements creates logistics challenges that include nonstandard formats, potentially incompatible communications links, and unfamiliar business processes. In addition, a reliance on allied forces also brings an attendant reliance on foreign vendors and host nation support. Visibility requirements need to be refined continually to satisfy customer requirements.